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of them prisoners; among whom was my wife,
the officer behind whom she rode (~~for~~ ~~her~~ ~~being~~
taken.

I saw this disaster, but could give no relief; for
after I was got through, I was in the enemy's rear,
alone - I was who had charged through with me went
on to Leeds. Thinking I had done so too. But I
stayed till I saw there was no more in my power
to do but to be taken prisoner with them. I then
retired to Leeds.

"At Leeds, I found all in great distraction; the
Council of war newly risen, when it was resolved
to quit the town & retreat to Hull, which was 60
miles off, many of the enemy's garrisons being
in the way.

"We got well to Selby, where there was a ferry, & hardly,
a garrison of the enemy at Carwood. My father being
a mile before with a few men, getting over the ferry,
word came to us that he was in danger to be taken.

"I started to him, & he was just got into the boat
when the enemy entered the town. I drew our
men upon the market place & charged them.
Then I received a shot in the wrist from an arm
which suddenly let out such a quantity of blood
that I was ready to fall from my horse; some men,
seeing me ready to fall, laid me on the ground.
Now, when I was almost senseless, my surgeon
came & bound up the wound & stopped the bleeding.

"After a quarter of an hour's rest, I got upon horse-
back again; some men had beaten the enemy
back to Carwood, the same way they came.

"Thus, by the goodness of God, our passage was
made clear; some went over the ferry after my father;
I myself, with others, went through the levels to Hull, &
it

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it proved a very troublesome & dangerous passage, being often interrupted by the enemy, sometimes in our front, sometimes in our rear.

"I had been 20 hours on horseback after I was shot without any rest or refreshment; & as many hours before. And, to make it worse, my daughter, not above five years old, being carried before her maid, endured all this retreat on horse-back. But, nature not being able to hold out any longer, she fell into frequent swoonings; & in appearance was ready to expire her last.

"Having now passed the Trent, & seeing a house not far off, I sent her mother, with her maid only, in the little hope of seeing her any more alive, though I intended the next day to send a ship from Hull for her.

"At last we got our men & horses on board ship, & crossing Humber, we arrived at Hull, our men faint & tired. I myself, had lost all even to my shirt, for my clothes were made unfit to wear with rents & blood. Presently after my coming to Hull, I sent a ship for my daughter, who was brought the next day to the town, pretty well recovered of her long & tedious journey.

"Not many days after, the earl of Newcastle sent my wife back again in his coach, with some horse to guard her. Which generous act of his gained him more reputation than he could have got by obtaining a lady prisoner."

Memoirs of General Skirpe.

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Low Moor Ironworks.

Yorkshire has neither gold mines nor silver mines, but it is rich in our English 'Precious metal' the iron, useful above all metals, which has done so much to make England a great nation.

Iron is found in a stony dark coloured ore called ironstone, which is ~~made~~^{consists} up of iron, clay, & other earthy substances. It is often in beds, sometimes a few inches thick, & sometimes several feet. There are generally a great many beds or seams one beneath another separated by beds of other minerals, & there, in ~~the~~ south Yorkshire ~~last~~^{and}, the iron is amongst the minerals found with the iron.

So close to Bradford as almost to form part of the town are the great Low Moor Ironworks, known all over the world for the great length & strength of their iron goods - iron plates, bars, & rails for railway lines - the best in the world, which are sent to America, Africa, Egypt, India, Russia; wherever the strongest iron goods are wanted the Low Moor "brand" is known.

By night you may see the foundry ~~from~~^{open} by the light of the huge blast furnaces blazing away like small volcanoes: and, round the works you must seek your way over a wilderness of barren cinder & 'slag' - the refuse of the furnaces - which, for nearly a century, has been collecting in hillocks over the place.

These great iron works rest upon the south west corner of the great coal field, where there is much ironstone lying in seams between the layers

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goal.

The mines are worked very much as other mines are. Long underground galleries are dug, sometimes so narrow that a man has to lie flat to his work. The ore is blasted with gunpowder, & the men get it out with a pick-axe.

Sometimes the ore is roaded, to get rid of gangue matter which will pass off as gas, before it is thrown into the blast-furnaces.

^{When it is thrown into the blast furnace,} these are huge ~~slender~~ buildings, made even to have great strength, & great power of resisting heat. They are always full of fiercely burning material, which is thrown in at the top as fast as it is drawn out at the bottom: the top is generally open, & for miles around, & great bodies of flames may ^{often} be seen shooting up night & day, Sunday & week-day. ~~For there are~~ fires which must never grow, & though work is not often done on Sundays, there must always be somebody to feed the furnaces. The iron-master could not afford to let out a fire which it would cost him \$1000 to have lighted again.

At the bottom of the blast-furnace there is a deep square hearth, & all the hollow of the furnace above this hearth is filled with ore & coal. But if only iron-ore & coal burned in the furnace, we should never get iron out.

It is a curious fact that certain substances have an affection, or what chemists call an affinity, for each other. The ore, as it is cast into the furnace, contains much clay along with the iron. The thing is, to separate the iron from the clay; & that is managed by throwing in another substance along with the coal & the ore, to which the clay has such an affinity, that

that it will leave the iron ^{iron} justly to this new substance, & leaving the iron pure.

Lime is this useful substance; the limestone used for this purpose in the Lest Moss works is brought from the quarries above Shipton - no great distance off.

When once it is filled, the furnace is kept roaring & blazing away, fresh coal & lime being poured in at the top every hour, day or night. The metal when it is melted, being heavier than anything else in the furnace, sinks to the square trough at the bottom.

But how is this piece of iron kept up continually. You know that when a fire gets low we make it blaze up by sending a blast of air, or wind, upon it with the bellows. Perhaps you don't know that such a blast of air, on its way up the chimney, is always blowing upon the fire to make it burn. A tremendous blast of air is necessary to keep these great - blast - furnaces burning bright; so a steam engine works the huge bellows which blow the air in; & in order that it may not come as a cold wind upon the hot iron, this air passes through red hot pipes, so that it is three times as hot as boiling water when it enters the furnace.

When the melted iron has been flowing falling into the square trough at the bottom of the furnace for twelve hours, it is tapped. It is allowed to flow out.

In front of the furnace is a flat space covered with sand. A long channel, or hollow in the sand is made down the middle of this space; this is called

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The Low: from each side of the low a hundred or more smaller channels, branch out, & these are the pigs.

All being ready, the clay slopes to the hole at the bottom of the furnace is broken away, & the white-hot liquid metal pours forth in a stream, bubbling & hissing, taking all manner of beautiful colours, & filling the air with a cloud of fiery sparks.

Men stand about with long poles to turn the stream of liquid metal into one & another of the pig-moulds, until they & the low are all filled; & fiery bright & very beautiful the whole appearance is. The pigs soon grow solid, & are carried away from the moulds while they are yet hot.

The Foundry

This is pig-iron, which, to make pig-irons, & railings, & shovels, & a thousand other things, is just once more melted in a furnace; & then the liquid metal is poured into a mould, a hollow clay shape of the exact pattern of the article that is to be made. This is called casting, & all goods which do not require either great strength or great beauty are made of cast iron. Look at an iron fence or fire-grate, you will generally find that the edges of the patterns are round & dull, not fine & sharp; a proof that the article has been cast in a mould, & not wrought with hand & hammer.

But if the iron is to be brought to the forge to be made very close & strong, or to be wrought into delicate patterns, it has much to go through yet; for pig-iron is brittle, & will not bear the hammer.

hammers.

The 'pigs' are broken into pieces, & put into the puddling furnace, where the brittle iron becomes malleable, that is, able to bear the hammer, & ductile, that is, capable of being drawn out into thin wire if need be. The puddling furnace is one in which the flames & heat are cast down, "reverberated" from an arched roof.

The 'puddler' is a kind of salamander, able to bear any heat. Naked to the waist, he watches the iron as it begins to melt through a hole in the furnace, stirring the pieces about with a long iron rod, which he is obliged to change for a cold one every few minutes or even the rod would melt. When the whole is melted, the puddler keeps the mass constantly stirred, & under the stirring, the fluid becomes thickened, & gradually separates into scum & slag. These, with two iron rods, he works into one big ball, or bloom, as it is called. Then the fiery ball of iron is lifted out of the furnace, & passes from one workman ^{especially at night, to another} as quick as thought, & change it ^{to another} the dark figures

sporting, as it were, with the huge ball of fire.

The bloom is flattened under an enormous hammer, then pressed out further under great rollers, until it is brought to the shape & size required. This rolling is very hard work, as the sheets of iron must be made red-hot between each rolling: and the men may be seen bathed in perspiration, carrying a sheet of red-hot iron, two or three yards square, from the furnace.

If the iron sheet or bar is not just the right size

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after the rolling, the edges are clipped with a pair of guillotine shears; it is a curious sight to see iron cut through as if it were no more than pretty stiff paper.

The iron is now ready for the forge, where it is shaped & hammered upon the anvil into whatever kind of wrought-iron goods is to be produced.

It is for the excellence of their wrought-iron goods that the South West Ironworks are, & have been, famous all over the world. About 1,000 men are employed in these great works.

The Reading Ironworks, also adjoining Bradford, are like those of South West, only on a smaller scale.

The Clothing Towns. Halifax.

We have no space to speak of the dozens of the dozens of smaller towns & clothing villages which gather round Leeds & Bradford, the two great centres.

Passing over the long backs of our bar hill after another or being carried through the hearts of the hills by means of railway tunnels, we come upon a town which stands in a valley shaped exactly like a deep basin with bar

steep hills ^{with steep sides for miles & miles} shutting it in on all sides. This

is Halifax, the third in importance of the West Riding clothing towns. Many tall chimneys rise out of the valley, & streets on the hill-sides, for the ^{whole} Halifax manufacturing carry on their works with great spirit, & there are worsted & woollen factories, as well as cotton mills, scattered through the length & breadth of this large parish which extends as far as Todmorden.

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One curious branch of Halifax trade is that with South America, the mill-owners having learned long ago how to cater for the tastes of the South American Indians. The manufactures of the town are very various & interesting, - materials for curtains, table-covers, dresses, &c.; while Messrs. Crookley's, the largest mill in the town, is a great carpet factory, which employs more than 3,000 hands. It is very interesting to watch the clever action of the loom which produces the sort of floor which covers the surface of 'Brussels' carpet; ~~the~~ ^{the} cutting of what may be called the 'shearing' of the carpet known as 'velvet pile'. All kinds of carpets are made here.

Before the use of machinery in factories became general, Halifax was the centre of the Yorkshire woollen works. In early days, the wool from English sheep was bought at a high rate by the merchants of Flanders, for no other wool was so much esteemed by the clothiers. But English-made clothes & shoppes were as much despised as English wool was esteemed. No gentleman at home or abroad would clothe himself in the rough cloth of the island which was left for the wear of the peasants & poorer sort of townsfolk. On another English king noted this fact, & though it is pity that England should lose the chief profit of its excellent wools in sending them to the looms of Flanders to be made up. And William the Conqueror, Edward I., Edward III., Henry VII., & Elizabeth, were amongst the monarchs who would stimulate weavers to settle in various parts of England & Wales, in order that they might turn their craft to the English.

It is said that to Edward III. Halifax owed its early prosperity. He showed himself friendly to the

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Hollanders weavers; made them many pairs
summers which he certainly did his best to
keep, & by degrees, got many families to come
settles in certain of his English towns.

Halifax was one of these towns.

The English were, a little inclined at first
to be jealous of these foreigners & did not
always treat them well. But, says an old writer,
"Happy the germanis home into which one of these
Dutchmen did enter, bringing industry & wealth
along with them. Such a home in strangers,
with its door, soon after went out bridegroom &
returned soon in. law, having married the daughter
of their landlords who first entertained them;
yes, those of them in whose houses they harboured

soon became gentlemen, joining estates to
themselves. ^{It is said that within day, the somewhat}
^{"peculiar dialect of the Halifax folk points to their}
^{Germanic origin}
He no longer need foreigners to teach us the secrets
of the wool-craft, but it is a curious fact that

there are at this day, a great many foreigners -
German merchants for the most part - settled
ⁱⁿ the large clothing towns.

Halifax is ~~rather~~ presents a rather handsome
appearance as a town, because it is built of
brown freestone, got from quarries near.
at hand. It has a fine old parish church
parts of which claim to belong to Saxon days;
& a ~~very~~ beautiful new church, built by Sir
Gilbert Scott - one of the most esteemed of modern
architects. ~~entirely at the expense of the~~ ^(All Souls)
~~manufactures of the town.~~ ^{wealthy} Amongst its

public buildings is a handsome town-hall
bright with gilding, & a large Rice Hall, where the
trade of Halifax used to be carried on, though
now the pieces (of stuff or cloth) are carried to
Bathford